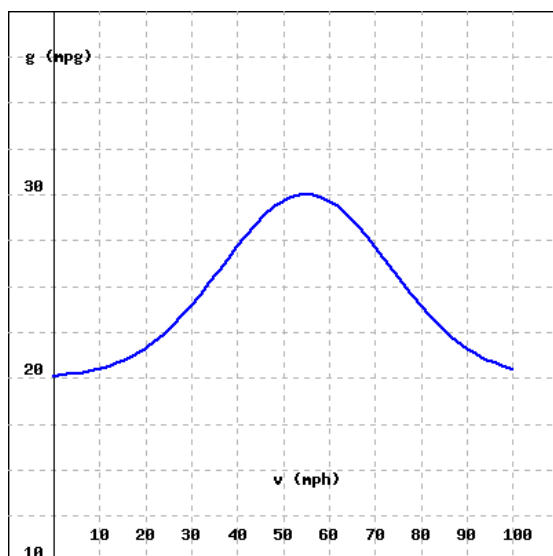


Part I

Changing in Tandem

CiT1.tex

Exercise 1 The graph below shows the fuel consumption (in miles per gallon, mpg) of a car driving at various speeds (in miles per hour, mph).



- (a) How much gas is used on a 400 mile trip at 80 mph?

amount of gas = $\boxed{400/24}$ gallons

Hint: When the car is going 80 mpr, it appears from the graph that the fuel consumption is approximately 24 mpg.

- (b) How much gas is saved by traveling 60 mph instead of 70 mph on a 600 mile trip?

saved gas = $\boxed{600/30 - 600/27}$ gallons

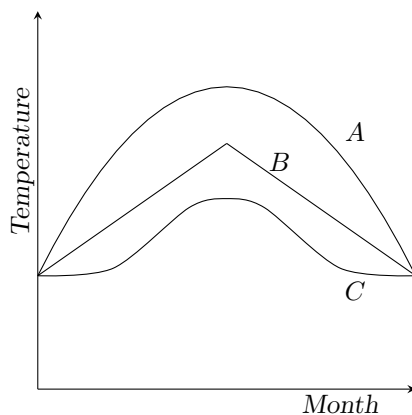
- (c) According to this graph, what is the most fuel efficient speed to travel?

most fuel efficient speed = $\boxed{55}$ mph

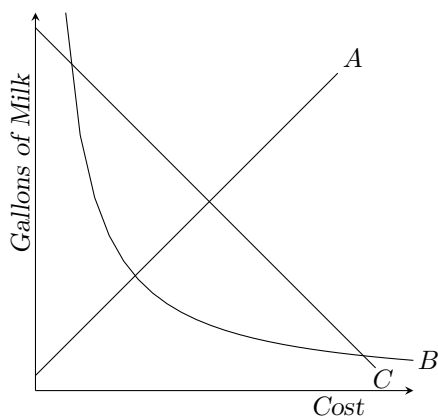
CiT2.tex

Exercise 2 For each of the situations below, pick the graph that most reasonably reflects the situation and the variables involved.

- (a) The daily high temperature recorded in Chicago from January to December: ☐ C



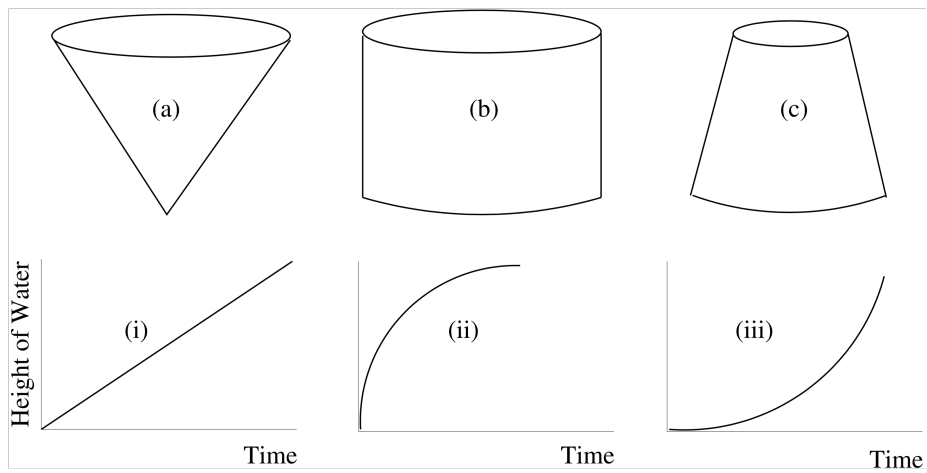
- (b) The number of gallons of milk you can buy with \$5 as the cost per gallon of milk increases: ☐ B



CiT3.tex

Exercise 3 Water is poured at a constant rate into the three containers shown below. Which graph corresponds to which container?

Which graph corresponds to container (a)?



Multiple Choice:

- (a) (i)
- (b) (ii) ✓
- (c) (iii)

Which graph corresponds to container (b)?

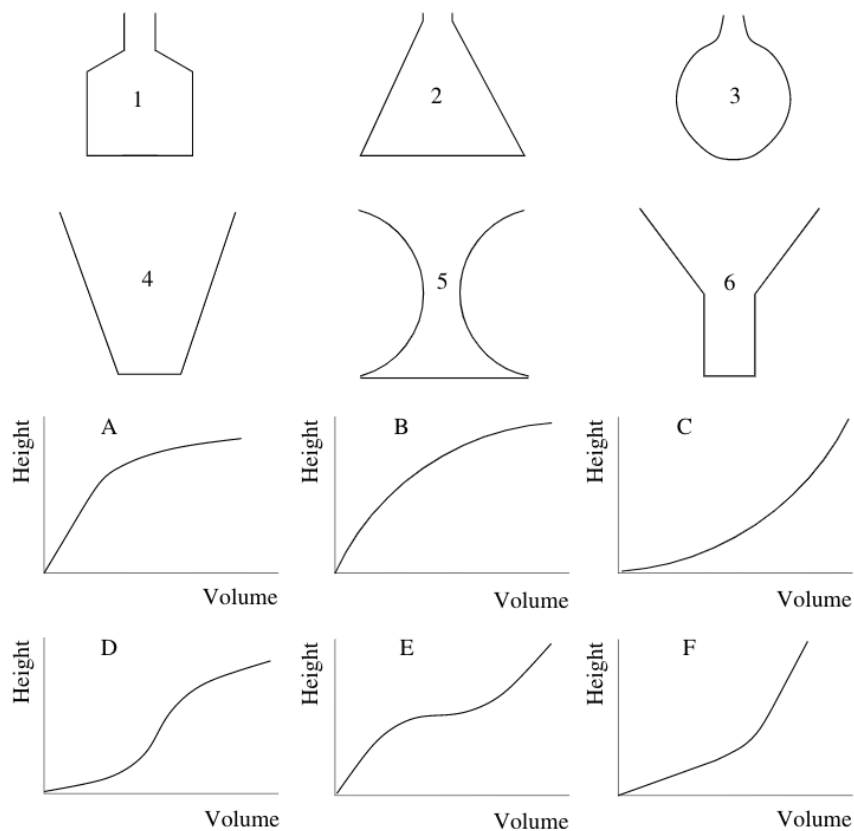
Multiple Choice:

- (a) (i) ✓
- (b) (ii)
- (c) (iii)

Which graph corresponds to container (c)?

Multiple Choice:

- (a) (i)
- (b) (ii)
- (c) (iii) ✓



Exercise 4 Water is poured at a constant rate into the six containers shown below. Which graph corresponds to which container?

Which graph corresponds to container 1?

Multiple Choice:

- (a) A
- (b) B
- (c) C
- (d) D
- (e) E
- (f) F ✓

Which graph corresponds to container 2?

Multiple Choice:

- (a) *A*
- (b) *B*
- (c) *C* ✓
- (d) *D*
- (e) *E*
- (f) *F*

Which graph corresponds to container 3?

Multiple Choice:

- (a) *A*
- (b) *B*
- (c) *C*
- (d) *D*
- (e) *E* ✓
- (f) *F*

Which graph corresponds to container 4?

Multiple Choice:

- (a) *A*
- (b) *B* ✓
- (c) *C*
- (d) *D*
- (e) *E*
- (f) *F*

Which graph corresponds to container 5?

Multiple Choice:

- (a) A
- (b) B
- (c) C
- (d) D ✓
- (e) E
- (f) F

Which graph corresponds to container 6?

Multiple Choice:

- (a) A ✓
- (b) B
- (c) C
- (d) D
- (e) E
- (f) F

